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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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07/880,244	05/08/92	ISEBERG	
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S-91P961
EXAMINER
LEH

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CHICAGO, IL 60661

ART UNIT PAPER NUMBER

2608
DATE MAILED:

05/06/93

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-21 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-21 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable. ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed on _____, has been ☐ approved. ☐ disapproved (see explanation).
12. ☐ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

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1. Claims 1-11 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 9, "a" before "an opening" has no meaning, "a" should be deleted.

2. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

3. Claims 1-5, 12-14, 16-18 are rejected under 35 U.S.C. § 103 as being unpatentable over Kanbe (JA 0290295) in view of Langford.

Regarding claims 1-4, 12-14, 16-18, Kanbe shows an insert earphone comprising: receiver means (18) including terminals (not numbered) for receiving an input electrical signal and an outlet (not numbered); electrical coupling means (20); acoustic

coupling means (14) having an opening (15); housing means (10, 11) including a chamber portion and tubular portion (12), defining a passage having an inlet end portion. Kanbe differs from claims 1-3, 12-14, 16-18 of the present invention in that it is not provided acoustic damper means comprising a tubular support member and a screen at the outlet of the receiver. Langford teaches an acoustic damper means (41, 34) supported within the outlet portion of the receiver means (See figures 1, 2). Since Kanbe and Langford teach an earpiece having the outlet of the receiver inserted into the ear of the user, it would have been obvious to one skill in the art to provide the acoustic damper means as taught by Langford in the Kanbe earpiece in order to avoid overdriving eardrum as a result of louder-than normal sound and also to use the damper means as filter for cleaning.

Regarding claims 4, 5, the difference from Kanbe in view of Langford and claims 4, 5 of the present invention is resilient mounting means positioned between the end surface of the receiver means and an inside surface of the end wall of the chamber means. However, Kanbe does teach a resilient mounting means (19) positioned between the outer surface of the receiver and an inner surface of the outer wall of the chamber. Therefore, it would have been obvious to one skill in the art to provide an resilient means positioned the whole outer surface of the receiver which is including the end surface of the receiver means as claimed for

the same purpose of absorbing the shock from the receiver.

4. Claims 6-9, 12-15 are rejected under 35 U.S.C. § 103 as being unpatentable over Kanbe (JA 0290295) in view of Langford as applied to claims 1, 3 12-14 above, and further in view of Kelsey.

Regarding claims 6-9, 12-15, Kanbe teaches the earphone inserted into the ear, this earphone has the tubular portion (12) including a external shoulder in facing relation to an outer surface of the housing. Also, Kanbe shows electrical coupling means (20, 21, 22, 23). However, Kanbe in view of Langford differ from claims 6-9, 12-15 of the present invention in that Kanbe and Langford do not specifically disclose the acoustic coupling means or the ear tips including a resilient material and one-piece member of molded plastic housing for the receiver. Kelsey teaches this resilient acoustic coupling means (12, 25, and see column 3, lines 40-49) and a one-piece member of molded plastic housing (See column 4, lines 3-5). Since Kanbe in view of Langford and Kelsey teaches an earplug including a receiver in the housing, it would have been obvious to one skill in the art to provide the resilient acoustic coupling means such as foaming or soft rubber and the molded plastic housing as taught by Kelsey in the Kanabe in view of Langford earplug for the comfort of the user and the pleasing appearance.

In addition, Kanbe in view of Langford and Kelsey differ

from claims 6, 15 of the present invention in that it is not provided an enlarged size at the end and section of the tubular portion. However, Kanbe does teach a shoulder at the end of the tubular. It would have been obvious to one skill in the art to provide an enlarged size at the Kanbe in view of Langford and Kelsey shoulder in order that more sound can be transmitted into the ear of the user.

5. Claims 10, 11 are rejected under 35 U.S.C. § 103 as being unpatentable over Kanbe in view of Langford as applied to claim 1 above, and further in view of Killion (4,677,679) or Marutani (JA 61-238196).

Kanbe in view of Langford shows the electrical coupling means installed within the housing between the end cap members and the receiver (See figures 1, 3, 4 of the Kanbe reference) Kanbey in view of Langford differ from claims 10, 11 of the present invention in that it is not provided the connection of the electrical coupling means with the capacitors and resistors as claimed. ~~However, Killion ('679) teaches an equalization as claimed.~~ However, Killion ('679) teaches an equalization network circuit 40a (See figure 4) and Marutani teaches an electronic filter circuit (21, 28) between the signal generator and the receiver of an insert earphone, these circuits comprising the resistors and the capacitor connected as claimed. Since connecting an equalization network or an electronic filter having

the connections of the capacitor and the resistors between the input and output terminals for equalization and filtering the frequency range is well known in the art. It would have been obvious to one skill in the art to provide the equalization circuit as taught by Killion ('679) or electronic filter as taught by Marutani having the connections as claimed in the Kanbe in view of Langford for obtaining a frequency response characteristic which matches with the human ear.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 19 is rejected under 35 U.S.C. § 102(b) as being anticipated by Mc Cabe.

Mc Cabe teaches an insert earphones driven at higher frequencies (See column 2, lines 14-17) and a cable assembly including a connector unit (3a, 3b), a junction unit (11), a pair of separate cables (1a, 1b), a common cable (not numbered) and a pair of electrical coupling means (4a, 4b).

8. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that

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the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

9. Claims 1-5, 9, 12-15, 20 are rejected under 35 U.S.C. § 103 as being unpatentable over Mc Cabe in view of Langford.

Mc Cabe teaches the earphones including receiver means (5) including terminals for receiving an input (See figure 1), and an outlet (6); electrical coupling means (4a, 4b); acoustic means (7a, 7b, 8a, 8b); housing means including a chamber portion for receiving the receiver and a tubular portion (not numbered). Mc Cabe differs from claims 1-5, 9, 12-15, 20 of the present invention in that it is not provided acoustic damper means within the outlet of the passage of the tubular portion. Langford teaches an acoustic damper means (41, 34). Since Langford teaches this acoustic damper means within the outlet portion of the receiver in the insert earphones, it would have been obvious to one skill in the art to provide the damper means as taught by Langford in the outlet portion of the Mc Canbe transducer in order to prevent earwax or avoid overdriving eardrum as a result of louder-than normal sound.

10. Claim 21 is rejected under 35 U.S.C. § 103 as being unpatentable over Mc Canbe in view of Killion('679) or Marutani.

The difference between Mc Canbe and claim 21 of the present invention is the connections of the capacitor and the resistors in the electrical coupling means. Killion ('679) teaches an equalization circuit 40a (See figure 4) and Marutani teaches an electronic filter circuit (21, 28) between the signal generator and the receiver of an insert earphone, these circuits comprise the capacitor and the resistors as claimed. Since connecting an equalization network or an electronic filter having the connections of the capacitor and the resistors between the input and output terminals for equalization and filtering the frequency range is well-known in the art, it would have been obvious to one skill in the art to provide the circuits as taught by Killion ('679) or Marutani for obtaining a frequency response characteristic which matches with the human ear.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ryder and Kamon et al teach a pair of insert earphones.

Marisawa (JA 58-43700) shows an earpiece including a receiver.


12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Le whose telephone number is (703) 305-4844.

Serial No. 880,244

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4750.


H.LE/TC
April 26, 1993


JIN F. NG
SUPERVISORY PATENT EXAMINER
GROUP 2600